AMENDMENTS TO THE CLAIMS

Please cancel claims 1 – 20 and 41 – 62. Please add claims 63 – 102 as follows.

1   1- 62.   (Canceled)

1   63.   (New) A method for processing database query operations, comprising the

2   computer-implemented steps of:

3   a database server receiving a database query that includes a first array reference

4   that symbolically references an array that has one or more indexes;

5   wherein the array addresses, as a cell of the array, a certain row and a first column

6   of a relational structure;

7   wherein each index of said one or more indexes corresponds to another column

8   different than said first column;

9   wherein a first index of said one or more indexes corresponds to a first column;

10   wherein the first array reference specifies a first index expression for the first

11   index;

12   wherein the first index expression of the first array reference corresponds to a first

13   value in said first column;

14   wherein the database query specifies an operation based on the first array

15   reference; and

16   in response to receiving said database query, the database server executing the

17   database query by performing steps that include performing said operation

18   specified in said database query.

1   64.   (New) The method of claim 63, wherein:

2   the one or more indexes include a second index;

3   wherein the first array reference includes a second index expression for the

4   second index.

1   65.   (New) The method of claim 63, wherein the first index expression is a Boolean

2   expression.

1   66.   (New) The method of claim 63, wherein the first index expression identifies a

2   range of values.

1   67.   (New) The method of claim 63, wherein the first index expression corresponds to

2   multiple values in the first column.

1   68.   (New) The method of claim 63, wherein:

2   each value of multiple values is stored in a respective row of said relational

3   structure; and

4   performing said operation specified in said database query includes performing,

5   for said each value, said operation.

1   69.   (New) The method of claim 63, wherein the first index expression for the first

2   array reference includes a looping construct that specifies a range of values.

1   70.   (New) The method of claim 63, wherein:

2   the database query includes a second array reference to the array; and

3   wherein the second array reference includes a first index expression for the first

4   index.

1   71.   (New) The method of claim 70, wherein the first index expression of the second

2   array reference addresses an index value in a way that is relative to the first index

3   expression of the first array reference.

1   72.   (New) The method of claim 63, wherein the operation is an update operation to

2   the first column of said certain row.

1   73.   (New) The method of claim 63, wherein the operation is an insert operation of

2   said certain row.

1   74.   (New) The method of claim 63, wherein:

2   the database query specifies an operation based on the first array reference by

3   specifying an assignment statement;

4   the database query includes a second array reference to the array;

5   the assignment statement includes an assignment expression that defines a value

6   to assign to the cell represented by the first array reference; and

7   the assignment expression includes the second array reference.

1   75.   (New) The method of claim 74, wherein the assignment expression is on the right

2   side of an assignment operator and the first array reference is on the left side of

3   the assignment operator.

1   76.   (New) The method of claim 74, wherein:

2   the first index expression corresponds to multiple values in the first column;

3   each value of said multiple values is stored in a respective row of said relational

4   structure; and

5   performing said operation specified in said database query includes performing,

6   for said each value of said multiple values, an assignment operation to the

7   first column of the respective row of said each value.

1   77.   (New) The method of claim 74, wherein the first index expression of the second

2   array reference addresses an index value in a way that is relative to the first index

3   expression of the first array reference.

1   78.   (New) The method of claim 77, wherein the first index expression for the first

2   index includes a looping construct that corresponds to a range of values in the first

3   column.

1   79.   (New) The method of claim 63, wherein the operation is an update operation to

2   the first column of said certain row.

1   80.   (New) The method of claim 63, wherein the operation is an insert operation of

2   said certain row.

1   81.   (New) The method of claim 63, wherein said database query correlates a second

2   column of the relational structure to said first index.

1   82.   (New) The method of claim 63, wherein said database query correlates a second

2   column of the relation structure to the measure of the array.

1   83.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 63.

1   84.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 64.

1   85.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 65.

1   86.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 66.

1   87.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 67.

1   88.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 68.

1   89.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 69.

1   90.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 70.

1   91.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 71.

1   92.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 72.

1   93.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 73.

1   94.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 74.

1   95.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 75.

1   96.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 76.

1   97.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 77.

1   98.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 78.

1   99.   (New) A computer-readable medium carrying one or more sequences of (New)

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 79.

1   100.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 80.

1   101.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 81.

1   102.   (New) A computer-readable medium carrying one or more sequences of

2   instructions which, when executed by one or more processors, causes the one or

3   more processors to perform the method recited in Claim 82.